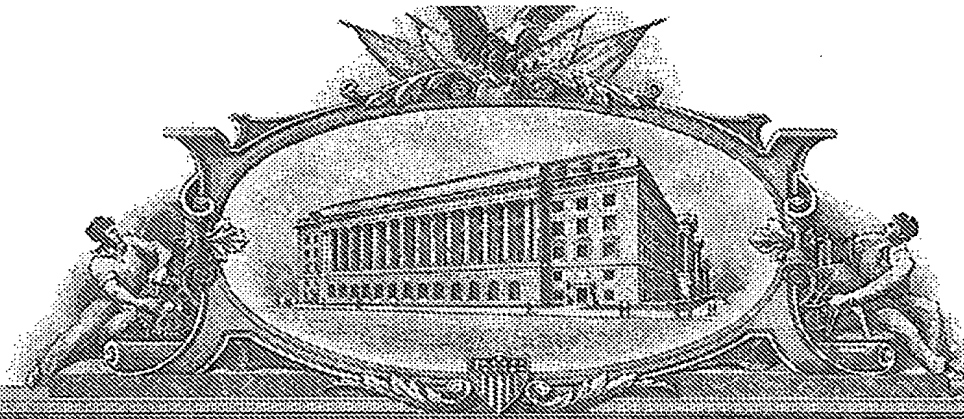


1296033



# THE UNITED STATES OF AMERICA

TO ALL TO WHOM THESE PRESENTS SHALL COME:

UNITED STATES DEPARTMENT OF COMMERCE

United States Patent and Trademark Office

*March 15, 2005*

**THIS IS TO CERTIFY THAT ANNEXED HERETO IS A TRUE COPY FROM THE RECORDS OF THE UNITED STATES PATENT AND TRADEMARK OFFICE OF THOSE PAPERS OF THE BELOW IDENTIFIED PATENT APPLICATION THAT MET THE REQUIREMENTS TO BE GRANTED A FILING DATE.**

**APPLICATION NUMBER: 60/545,023**

**FILING DATE: February 17, 2004**

**RELATED PCT APPLICATION NUMBER: PCT/US05/04950**



Certified by

Under Secretary of Commerce  
for Intellectual Property  
and Director of the United States  
Patent and Trademark Office

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# PROVISIONAL APPLICATION FOR PATENT COVER SHEET

This is a request for filing a PROVISIONAL APPLICATION FOR PATENT under 37 CFR 1.53(c).

Express Mail Label No. EV068663555US

## INVENTOR(S)

Given Name (first and middle (if any))	Family Name or Surname	Residence (City and either State or Foreign Country)
Victoria A.	Wofford	131 Fifth Avenue, Apt. 601 New York, New York 10003

☒ Additional inventors are being named on the 1 separately numbered sheets attached hereto

## TITLE OF THE INVENTION (500 characters max)

Travel Monitoring

Direct all correspondence to:

## CORRESPONDENCE ADDRESS

☐ Customer Number



Place Customer Number  
Bar Code Label here

OR

Type Customer Number here

☒ Firm or  
Individual Name

David M. Ostfeld, Chamberlain, Hrdlicka, White, Williams & Martin

Address

1200 Smith Street, Suite 1400

Address

City

Houston

State

Texas

ZIP

77002

Country

USA

Telephone

713-658-2505

Fax

713-658-2553

## ENCLOSED APPLICATION PARTS (check all that apply)

☒ Specification Number of Pages

32

☐ CD(s), Number

☐ Drawing(s) Number of Sheets

☐ Other (specify)

☐ Application Data Sheet. See 37 CFR 1.76

## METHOD OF PAYMENT OF FILING FEES FOR THIS PROVISIONAL APPLICATION FOR PATENT

☒ Applicant claims small entity status. See 37 CFR 1.27.

☐ A check or money order is enclosed to cover the filing fees

☒ The Commissioner is hereby authorized to charge filing fees or credit any overpayment to Deposit Account Number:

15-0697

☐ Payment by credit card. Form PTO-2038 is attached.

FILING FEE  
AMOUNT (\$)

\$ 80.00

The invention was made by an agency of the United States Government or under a contract with an agency of the United States Government.

☒ No.

☐ Yes, the name of the U.S. Government agency and the Government contract number are: \_\_\_\_\_

Respectfully submitted,

SIGNATURE

TYPED or PRINTED NAME

David M. Ostfeld

TELEPHONE

713-658-2505

Date

2/17/04

REGISTRATION NO.

(if appropriate)

Docket Number:

27,827

002140-02

## USE ONLY FOR FILING A PROVISIONAL APPLICATION FOR PATENT

This collection of information is required by 37 CFR 1.51. The information is used by the public to file (and by the PTO to process) a provisional application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 8 hours to complete, including gathering, preparing, and submitting the complete provisional application to the PTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, Washington, D.C. 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Box Provisional Application, Assistant Commissioner for Patents, Washington, D.C. 20231.

**PROVISIONAL APPLICATION COVER SHEET**  
*Additional Page*

PTO/SB/16 (10-01)

Approved for use through 10/31/2002. OMB 0651-0032  
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

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Docket Number	002140-02
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INVENTOR(S)/APPLICANT(S)		
Given Name (first and middle [if any])	Family or Surname	Residence (City and either State or Foreign Country)
Ashton R.	Adams	6208 Red Canyon Drive, #C Highlands Ranch, Colorado 80130

Number 2 of 2

**WARNING: Information on this form may become public. Credit card information should not be included on this form. Provide credit card information and authorization on PTO-2038.**

**CHAMBERLAIN, HRDLICKA, WHITE, WILLIAMS & MARTIN**

A PARTNERSHIP OF PROFESSIONAL CORPORATIONS

**ATTORNEYS AT LAW**

1200 SMITH STREET, SUITE 1400

**HOUSTON, TEXAS 77002**

(713) 658-1818 (800) 342-5829

(713) 658-2553 (FAX)

www.chamberlainlaw.com

HOUSTON  
ATLANTA

DAVID OSTFELD, P.C.  
PARTNER

DIRECT DIAL NO. (713) 658-2505

E-MAIL: [dave.ostfeld@chamberlainlaw.com](mailto:dave.ostfeld@chamberlainlaw.com)

February 17, 2004

**CERTIFICATION UNDER 37 C.F.R. § 1.10**

**EV068663555US**

Express Mail Number

**February 17, 2004**

Date of Deposit

I hereby certify that this Application and the documents referred to as enclosed therein are being deposited with the United States Postal Service in an envelope as "Express Mail Post Office to Addressee," addressed to:

**MAIL STOP PROVISIONAL PATENT  
APPLICATION**

Commissioner for Patents

P. O. Box 1450

Alexandria, VA 22313-1450

  
By: Yvonne R. Simera

**February 17, 2004**

Date of Signature

**MAIL STOP PROVISIONAL PATENT APPLICATION**

Commissioner for Patents

P.O. Box 1450

Alexandria, VA 22313-1450

**Re: Title: TRAVEL MONITORING**  
**Inventor(s): Victoria Wofford and Ashton Adams**  
**Docket No. 002140-02**

Sirs:

This letter is a request to file a **PROVISIONAL PATENT APPLICATION** in the name(s) of **Victoria Wofford and Ashton Adams** for **Travel Monitoring** with the United States Patent & Trademark Office.

February 17, 2004  
Page 2

Enclosed with this transmittal letter are the following documents:

- Patent Cover Sheet for Provisional Application (PTO/SB/16); and
- A Specification consisting of thirty-two (32) pages.

The Commissioner is authorized to charge the filing fee of \$ 80.00 or any additional fees, or credit any overpayment to Deposit Account No. **15-0697**.

Please return the enclosed postcard to acknowledge receipt and filing of this application and forward all correspondence concerning the above-referenced application to the address appearing below.

Respectfully submitted,



---

David M. Ostfeld, Reg. 27,827  
Attorney for Applicant  
Chamberlain, Hrdlicka, White,  
Williams & Martin  
1200 Smith Street, Suite 1400  
Houston, Texas 77002-4310  
(713) 658-2505

DMO:yrs  
Enclosures

456219.1  
002140-02:2/17/2004

## **TRAVEL MONITORING**

### **Background of the Invention**

There are several common varieties of technical and data solutions available in the Corporate Travel Management arena, including:

Most travel agencies deliver monthly reports to corporations who utilize their services. These reports are generally delivered as hard copy or sometimes in Spreadsheet (i.e., Excel) format. Data for a specific month is generally delivered pursuant to the end of that month.

Most Corporate Card providers deliver monthly reports to corporations who utilize their services. These reports are generally delivered as hard copy or sometimes in Spreadsheet (i.e., Excel) format. Data for a specific month is generally delivered pursuant to the end of the month. This data is also sometimes available online, and in some cases, corporations can go online and create custom reports which will pull the data desired for a custom report – which for a specific month is generally delivered pursuant to the end of that month.

For further background, see:

**United States Patent  
Shoolery , et al.**

**5,570,283  
October 29, 1996**

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### **Corporate travel controller**

A system for controlling travel primarily in a corporate environment that interconnects travelers, travel agents and airline CRSs so that a traveler can communicate with the CRS with a user friendly GUI to obtain schedule information and transfer such to a travel agent, the travel agent can use the selected schedule information for ticketing and to assure the lowest cost while the entire trip information is stored locally for management control. The system includes multiple connects to the CRS to overcome data transfer limitations specific to airline CRSs.

**United States Patent  
Vance , et al.**

**6,442,526  
August 27, 2002**

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### **System for corporate travel planning and management**

A system and method for processing travel data and travel receipts. Travel data including travel segments is received by the system. Receipts for the trip are also received from a credit card

provider. The received credit card data and travel data are each converted into a predefined format. The converted information is compared to match information in the receipts and the travel data such as chain codes or dates of travel. **A list of matching data is output, such as to use in preparing an expense report.**

**United States Patent**  
**Acebo , et al.**

**6,023,679**  
**February 8, 2000**

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### **Pre- and post-ticketed travel reservation information management system**

Methods and system for effecting the instantaneous data transmission to a locally operated computer system upon an occurrence in the computer reservation system (CRS). Specifically, a method for automatically generating pre-ticketed travel information is disclosed, in which booked reservation information and traveler information in a is automatically transmitted to a locally operated computer system as soon as the booking of the reservation is complete. When the reservation information included more that one travel transaction, such as an air transaction, a hotel transaction and a rental car transaction, the traveler and reservation information is stored in a manner to track common information between different travel transactions, such as sale information, rather than track individual travel transactions. Also, a method of automatically updating an existing customer profile in a locally operated computer system upon the detection of the update of the corresponding customer profile in a (CRS) is discussed.

**United States Patent**  
**Shoolery , et al.**

**5,570,283**  
**October 29, 1996**

---

### **Corporate travel controller**

A system for controlling travel primarily in a corporate environment that interconnects travelers, travel agents and airline CRSs so that a traveler can communicate with the CRS with a user friendly GUI to obtain schedule information and transfer such to a travel agent, the travel agent can use the selected schedule information for ticketing and to assure the lowest cost while the entire trip information is stored locally for management control. The system includes multiple connects to the CRS to overcome data transfer limitations specific to airline CRSs.

---

Computer system and method for determining a travel scheme minimizing travel costs for an organization

A computer system and a method for determining a travel scheme minimizing travel costs for an organization, where the organization expects to purchase travel trips for a plurality of travelers for a plurality of travel links. Each travel link comprises a travel origin and a travel destination, and is served by at least one of the carriers. The system comprises a data input device for receiving travel information relating to the carriers and the links, a data storage device for storing the travel information received by the data input device, a processor, and a data output device. From the travel information, the system constructs an objective function representing a travel cost to the organization to purchase travel trips for the plurality of travelers for the plurality of predetermined links, and a set of constraints comprising restrictions relating to the objective function. The constraints are applied to the objective function to determine a solution of the objective function that satisfies the constraints and that minimizes the travel costs of the organization, and a data output device then generates a report representative of the solution. The travel information comprises travel cost information for each link for each carrier serving the link, demand and supply information pertaining to a projected demand for each link and a projected supply for each carrier, and carrier goal information pertaining to any predetermined goal the organization may have with respect to any of the carriers.

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Pre-ticket travel reservation record keeping system

A record keeping system communicates with an airline's customer reservation system and a corporate client database system. A dedicated queue within the customer reservation system is accessed daily by the record keeping system to download data comprising travel itineraries. A relational database control within the record keeping system organizes the pre-travel data for efficient use by a corporate client. The reorganized data thus downloaded and organized is sent daily to the corporate clients for use in their own local database systems.



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**Computer reservation system with means to rank travel itineraries chosen in terms of schedule/fare data**

A remote data base containing flight schedule, fare, and fare limitations information is accessed from a local computer terminal. The information retrieved is sorted and scored in accordance with a predetermined travel policy stored in the local computer memory, and as applied to a proposed travel itinerary. A ranked list of applicable flights is merged into a single display.

### Summary of the Invention

A Corporate Travel Management System where each system user as a single customer utilizes a single computer terminal to view and analyze real time corporate travel data for multiple business units and multiple travelers is disclosed. The system consolidates data which is flowing electronically from multiple electronic data sources and multiple suppliers. The system is further utilized to communicate with all individual travelers, as well as any individual(s) from multiple suppliers, and all management users at a specific client regarding travel issues, analysis of the travel speed, and contract/audit issues simultaneously.

The consolidating computer system aggregates all electronic data from each data source, including Corporate Card provider(s), Travel Agency Services supplier(s) and ancillary travel services Provider(s) and presents the information in a variety of formats for instant analysis and complete end-to-end management of travel expenditures for the management team at the client company.

The system is designed to take data feeds from numerous disparate sources (multiple travel agency booking offices worldwide, online booking sources a corporation has contracted with, corporate card data sources worldwide, feeds from other ancillary providers such as ground transportation companies, security specialists, travel benchmarking information, and the like) on a real time basis (as transactions are occurring). The system automatically completely integrates that data on a real time basis to provide comprehensive data analysis allowing corporations an unprecedented amount of control over their travel program. The system will also provide an unprecedented ability to track corporate travelers on the road, including tracking all deviations travelers make from their originally booked itineraries on a real time basis.

The system ("TravelMaster") integrates all the data from all sources and presents it to the user(s) in easily manipulated formats on their computer screen. This provides specific highlighting of travelers who have deviated from corporate policy, or travelers who have deviated from their planned itinerary. The system also highlights pricing errors on the part of the agency office, or on the part of suppliers where contract pricing is in place, thus providing a built in audit tool.

The data integration and analysis tools additionally give the corporation spend analysis and tools for increased leveraged negotiations with their existing travel suppliers and identifies potential travel suppliers with which the corporation should be focusing on negotiated pricing.

Travel Master is a highly flexible interface architecture, allowing corporations to define their user types and roles within the organization to meet the ever changing needs of their travel program and travel program management. TravelMaster encompasses the following default types of users (but these user groups/types can be expanded on an unlimited custom basis), and gives each of these user types unique tools and analysis screens and reporting:

Corporate Travel Directors/Travel Managers

Company Corporate Card Managers

Company Director of Security

Company Executives

Company Travelers

Company Admins who plan Travel for Others

The Company's Travel Suppliers

In addition to all of the above, the TravelMaster system provides a real-time communications system for all of these user groups.

In addition to the above, the TravelMaster provides a comprehensive end-to-end management tool for all aspects of the corporate travel program from Pre-Travel approvals; to policy exception approvals; to comprehensive integration of data from all sources on a global basis; to real-time tracking of all travelers and all expenditures (including features especially designed for corporate directors of Security); to performance measurement and analysis relative to the corporation's current travel supplier contracts, as well as highlighting potential opportunities to negotiate with travel suppliers not yet a part of the corporation's travel program; to post-travel T&E accounting and expense reporting.

Further, TravelMaster provides audit capabilities of all negotiated rates with travel suppliers (i.e., confirming that travelers are paying the proper rates, and highlighting errors in rates charged by travel suppliers vs. negotiated contracts), as well as audit capabilities of the work being done by travel agency personnel, and others involved during the process of completion of travel.

The computer system additionally presents to each traveler their individual information , and any ancillary information required in order for the specific traveler to complete their travel, analyze their personal travel spend, benchmark that cost against other travelers at the same or different corporate levels, and reconcile all travel expenses.

Traditionally companies have relied on accounts payable (A/P) clerks to validate bills and catch errors. However, Travel bills can be inordinately difficult to decipher and matching bookings data to corporate card data comprehensively has often been nearly impossible. Companies often

invested many hours with little return or simply paid bills without validating, just to keep up with the volume. Additionally, no company was able to match the entirety of their travel bookings data to their corporate card data in such a way as to analyze the two data streams, and what was actually happening inside their travel program on a real-time basis.

Because TravelMaster provides a solution to various gaps discussed above, giving the company better enterprise insight into travel spending and usage information, companies can then apply that knowledge towards more efficient management of its users and suppliers. Enterprises can realize strategic benefits by fine-tuning the management of services, vendors, technology, and pricing plans.

These benefits are summarized in Table 1 below.

Table 1: Optimization Benefits

- Influence preferred provider usage by establishing financial policies with threshold alerts and variance reports
- Facilitates budget planning decisions with a solid understanding of total travel usage and spend
- Leverage peer benchmark information to improve contract terms (pricing, SLAs, etc.)
- Leverage corporate buying power with vendors for improved pricing
- Optimize rate plans based on known usage patterns
- Optimization of air carrier, hotel, rental car and travel services suppliers contracts based on better contract terms
- Enable user accountability through accounting and charge back mechanisms
- Optimize traveler security through real-time interaction with the corporation's Security Organization
- Facilitate real-time analysis of all travel spend and traveler behavior
- Facilitates ongoing audit of all travel suppliers to ensure negotiated pricing is appropriately applied

TravelMaster allows companies to organize and integrate their strategies for every travel expense category around five key processes on a real-time basis at a level of detail and data integration which has never previously been available:

**Analyze** — conduct companywide spending analysis to identify and prioritize savings opportunities, including supply base rationalization and purchase aggregation

**Plan** — develop optimal sourcing and procurement strategies for both indirect and direct expenditures based on existing and future purchase requirements across the enterprise

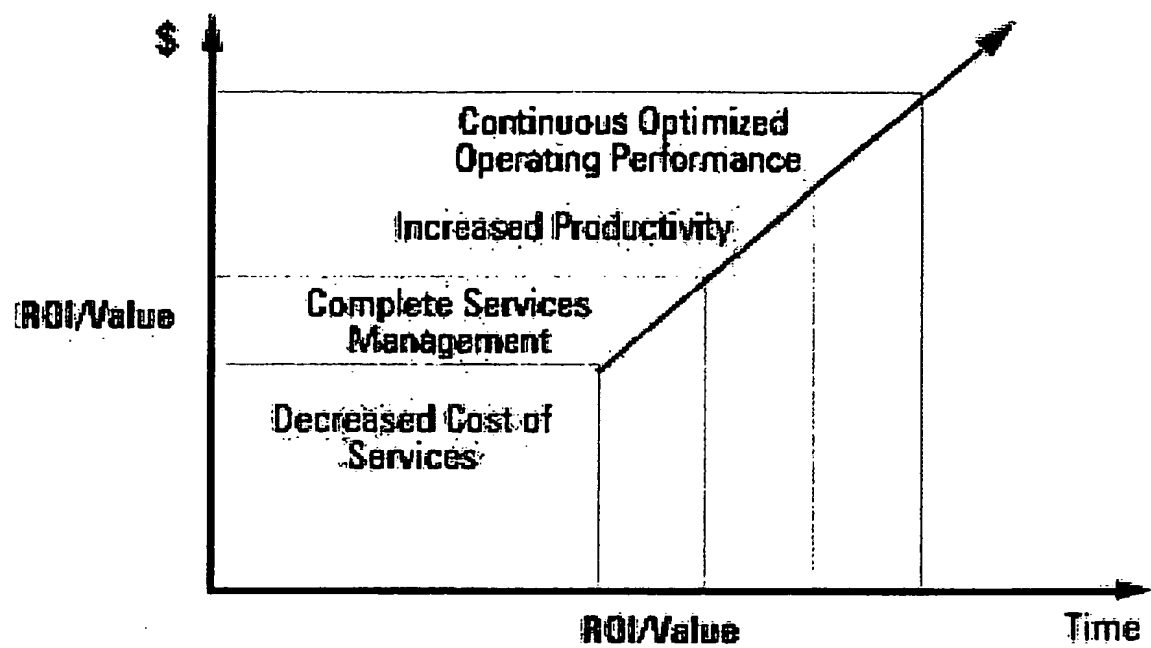
**Source** — identify, evaluate, negotiate, and configure trading relationships

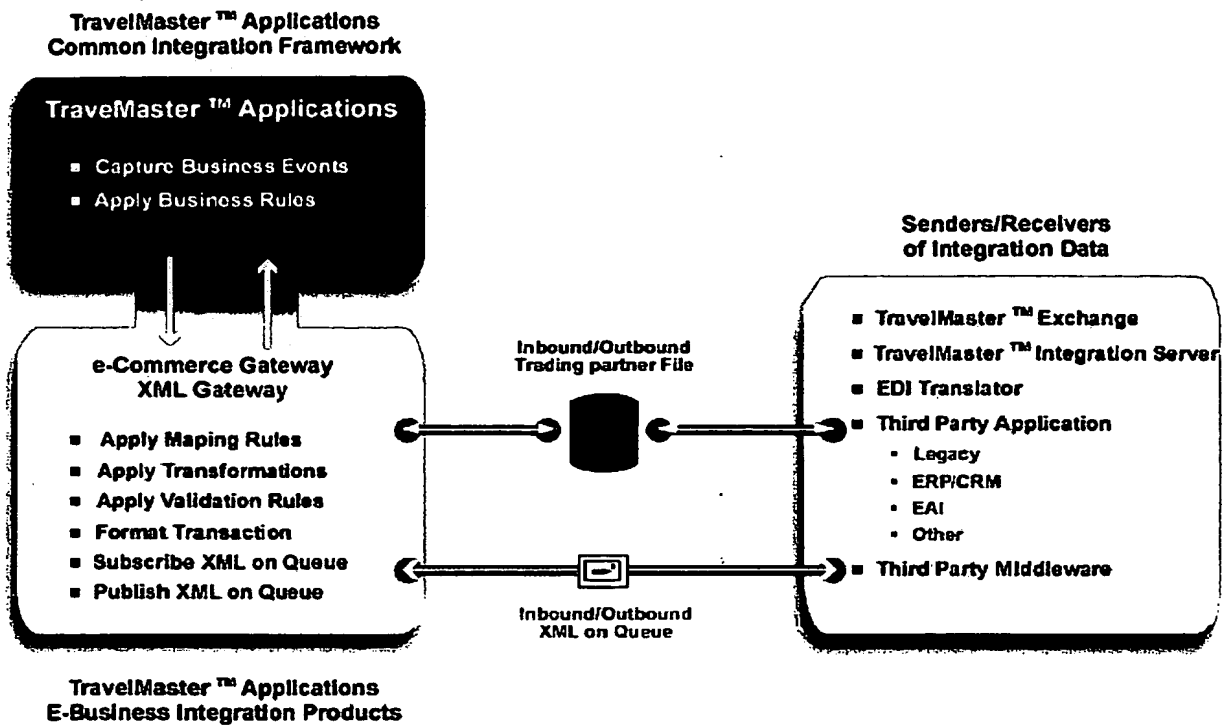
**Buy** — communicate, execute, and settle payment against negotiated trading agreements and contracts

**Monitor** — measure and enforce internal contract compliance and external supplier performance

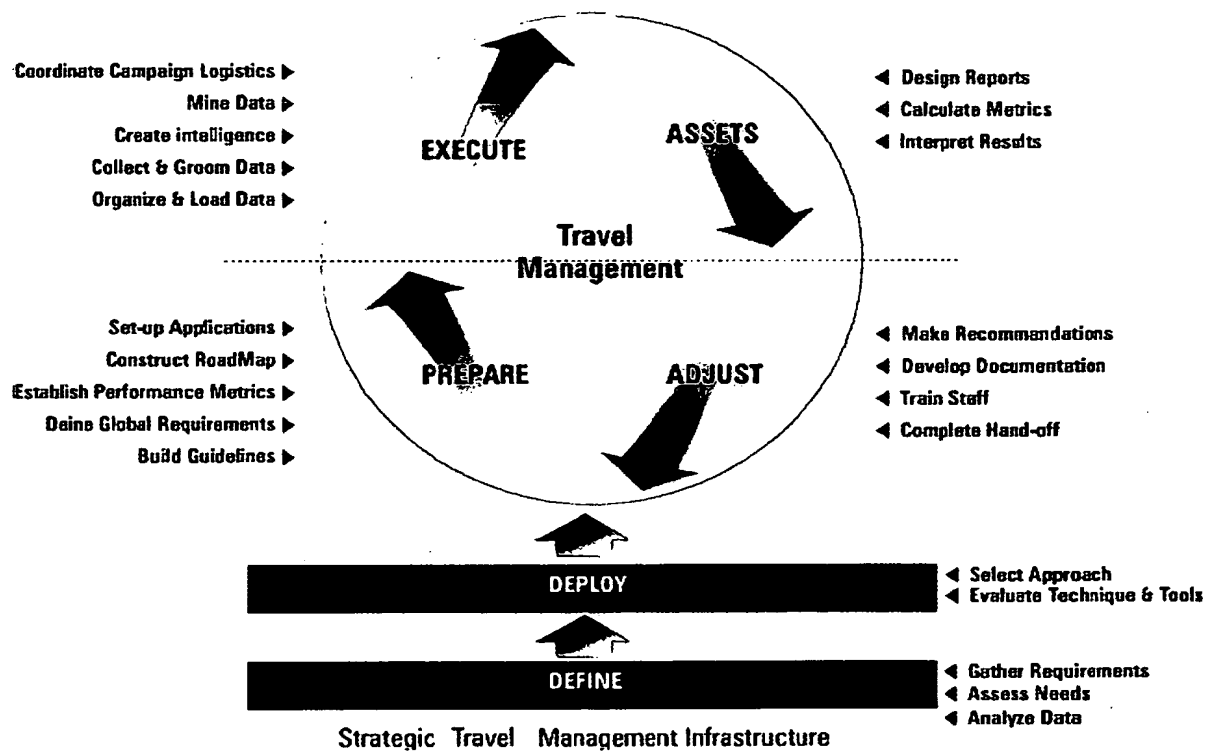
- c) "Brief Description of Drawings". Attach drawings.

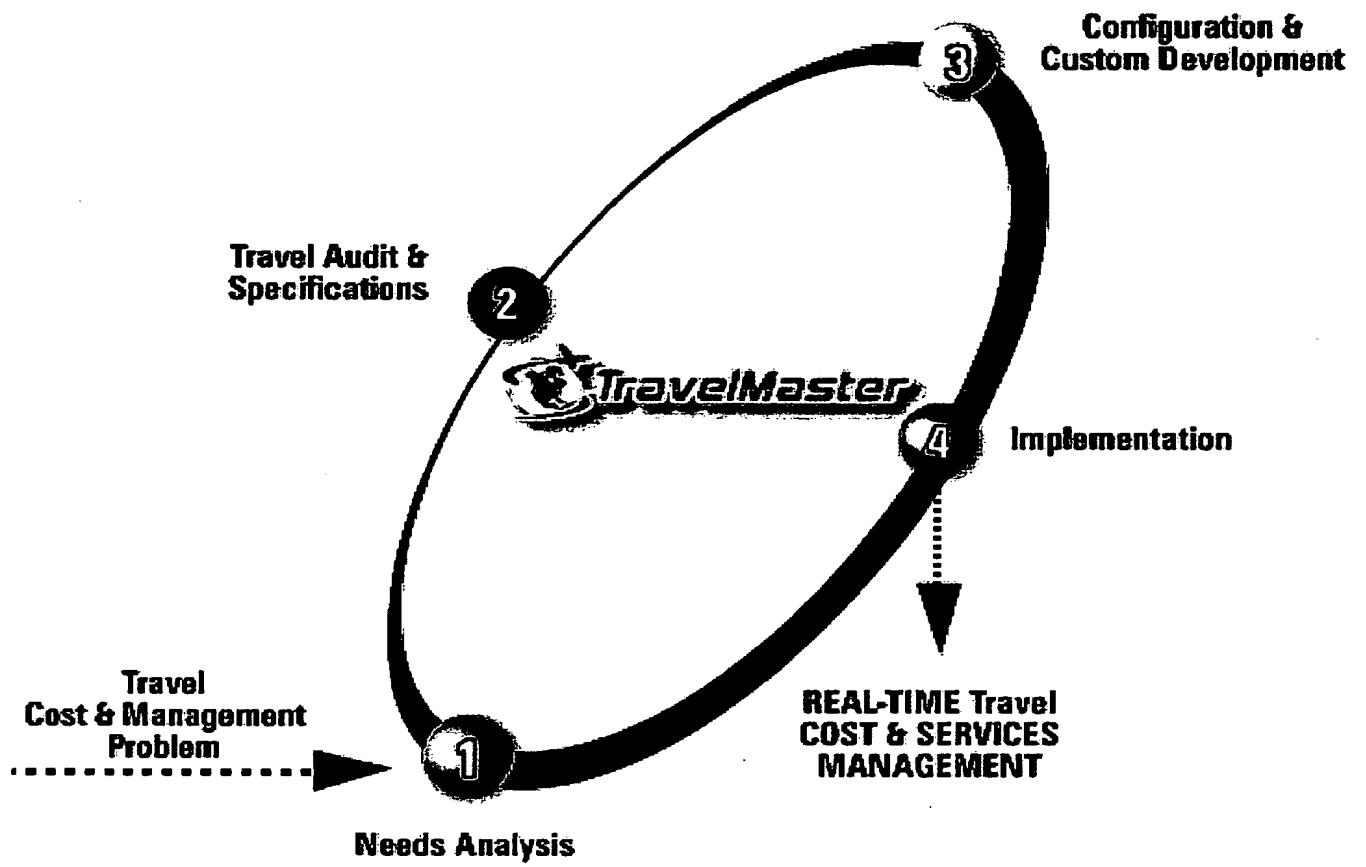


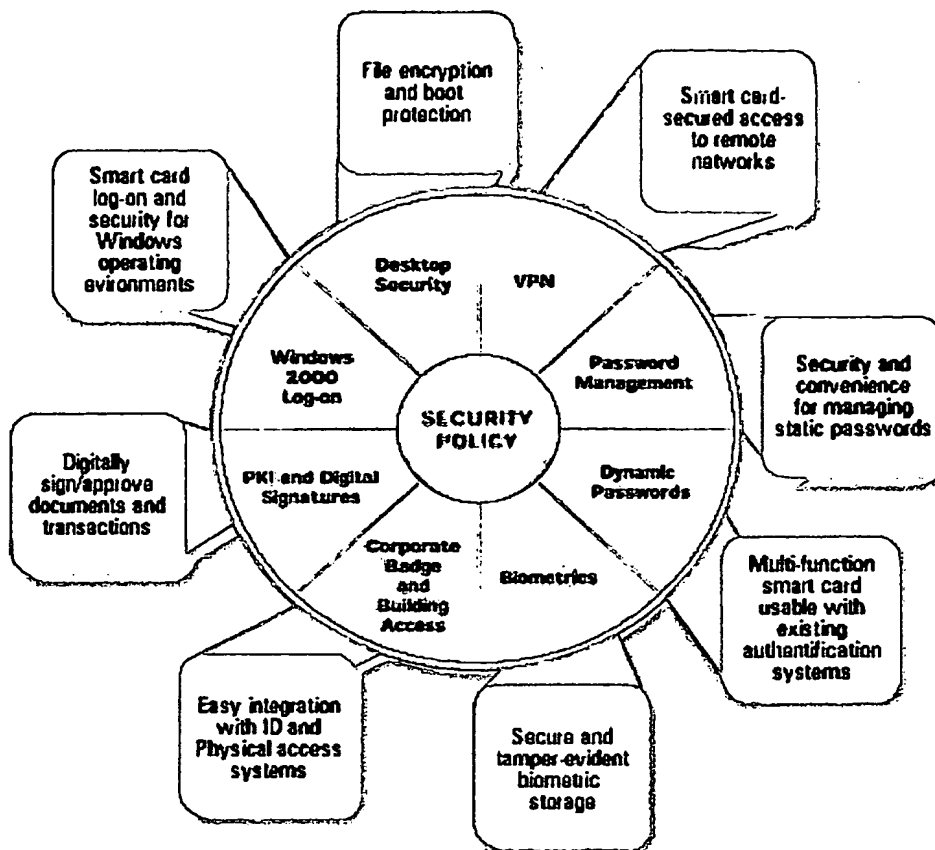




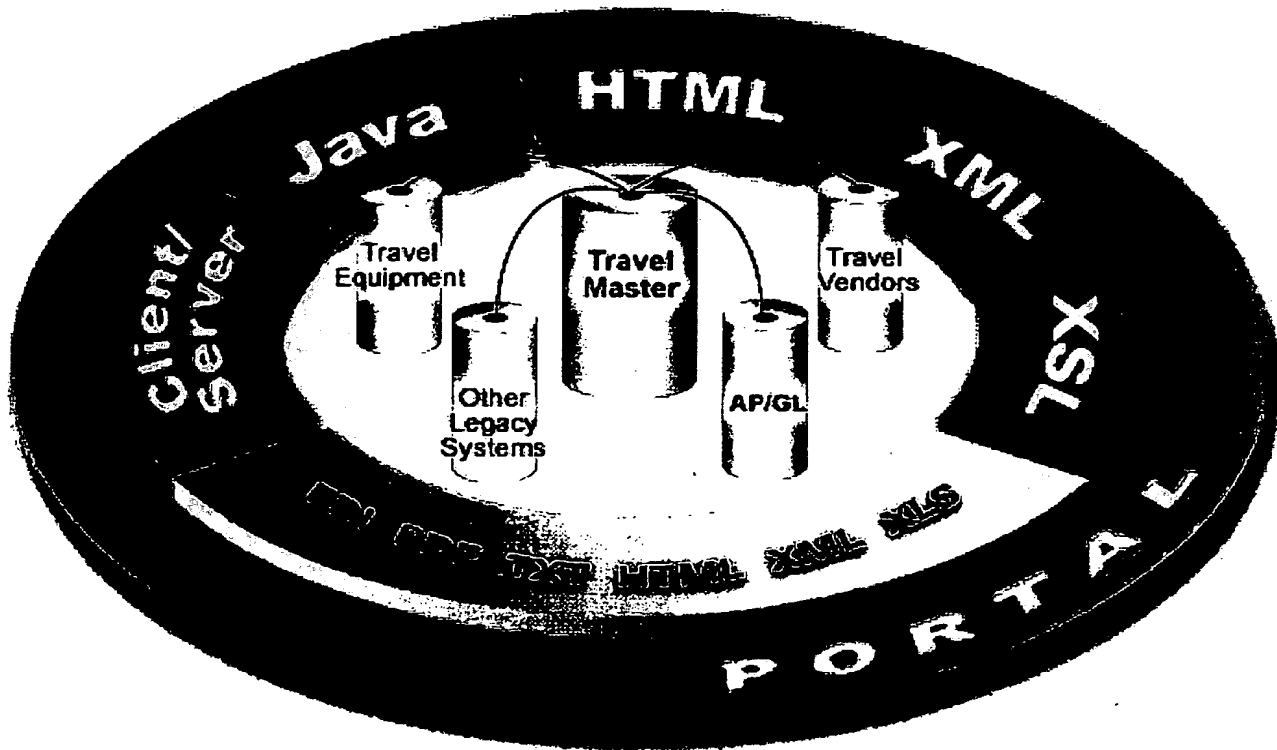


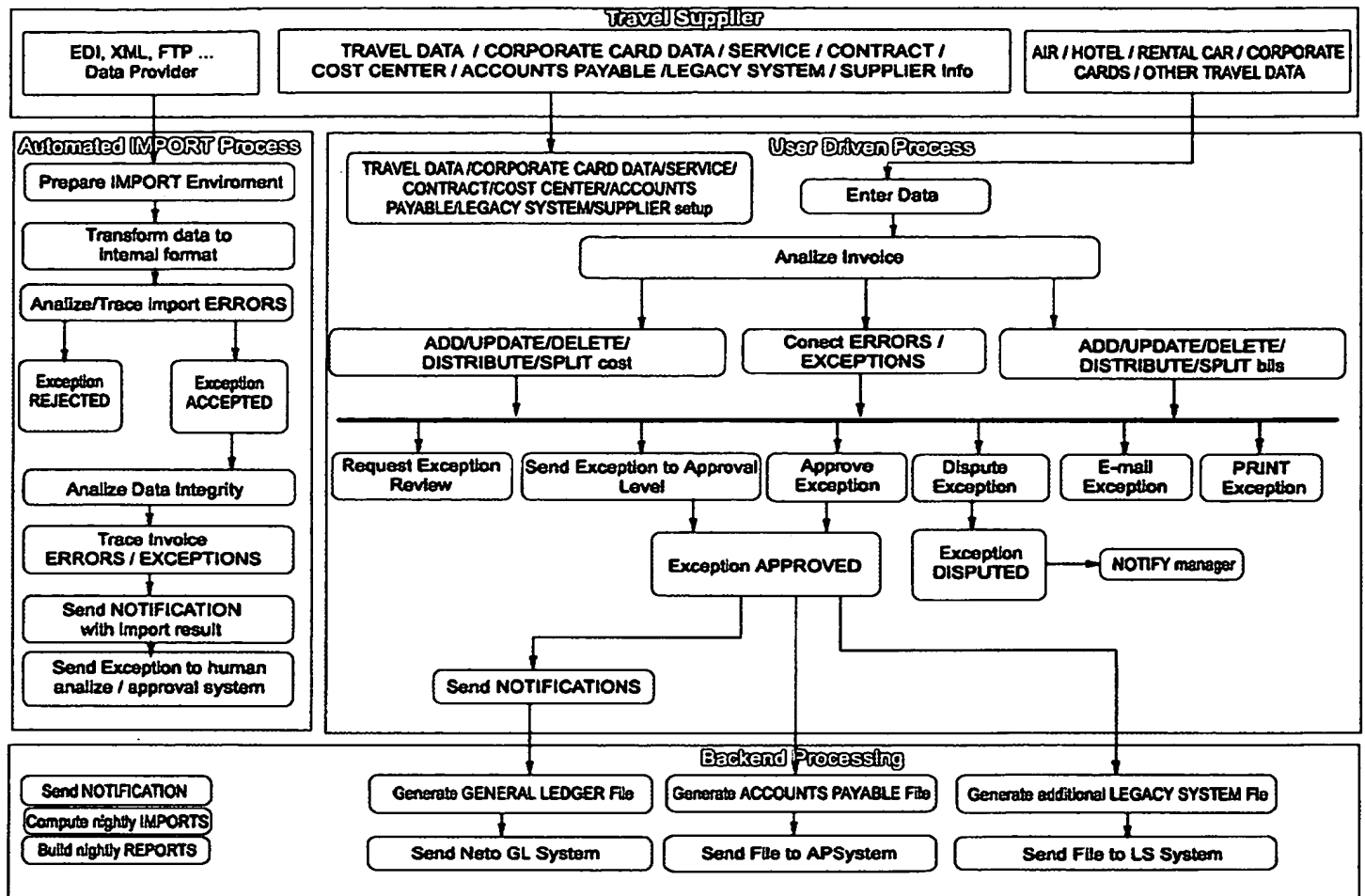




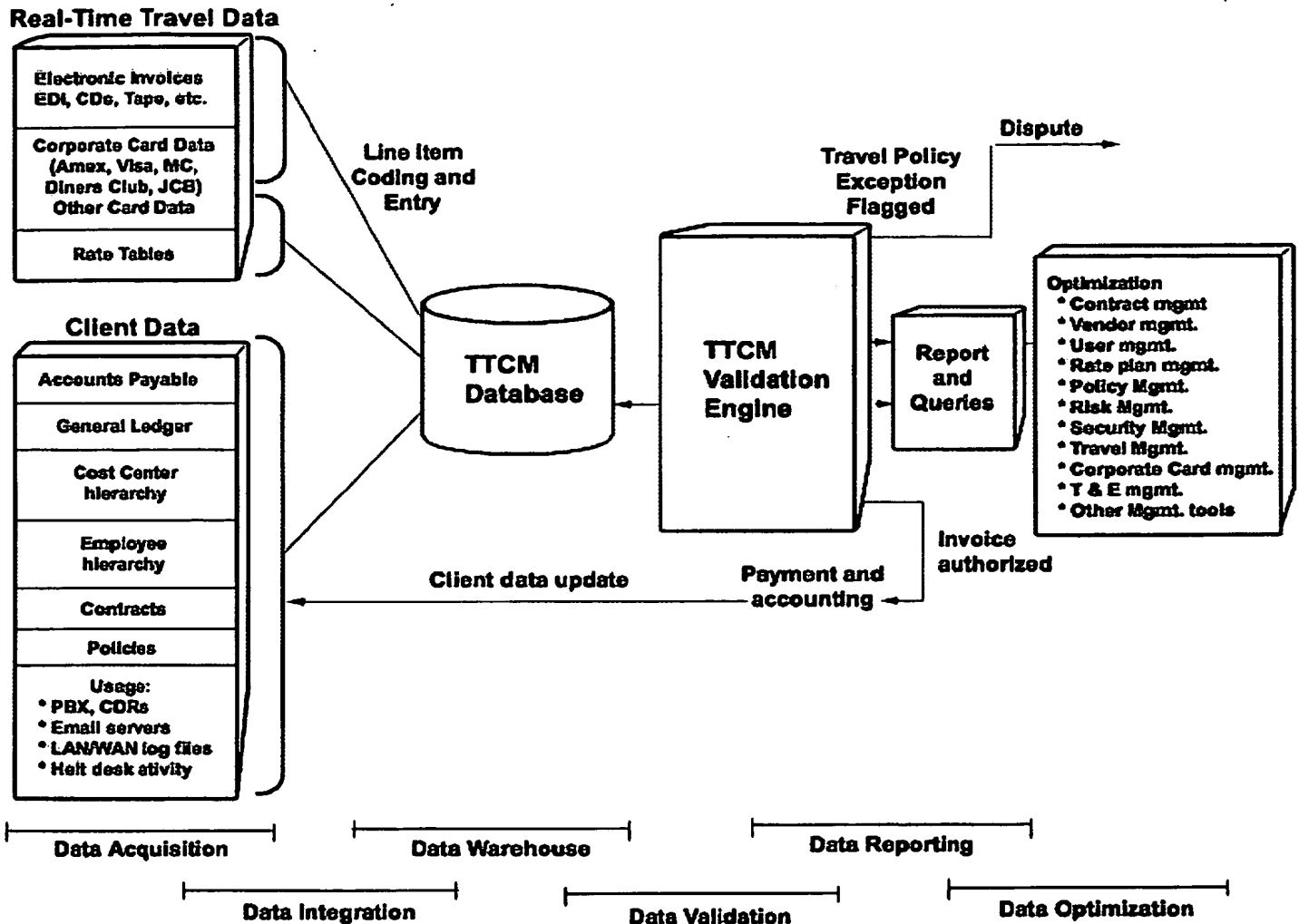


## Open Application Architecture

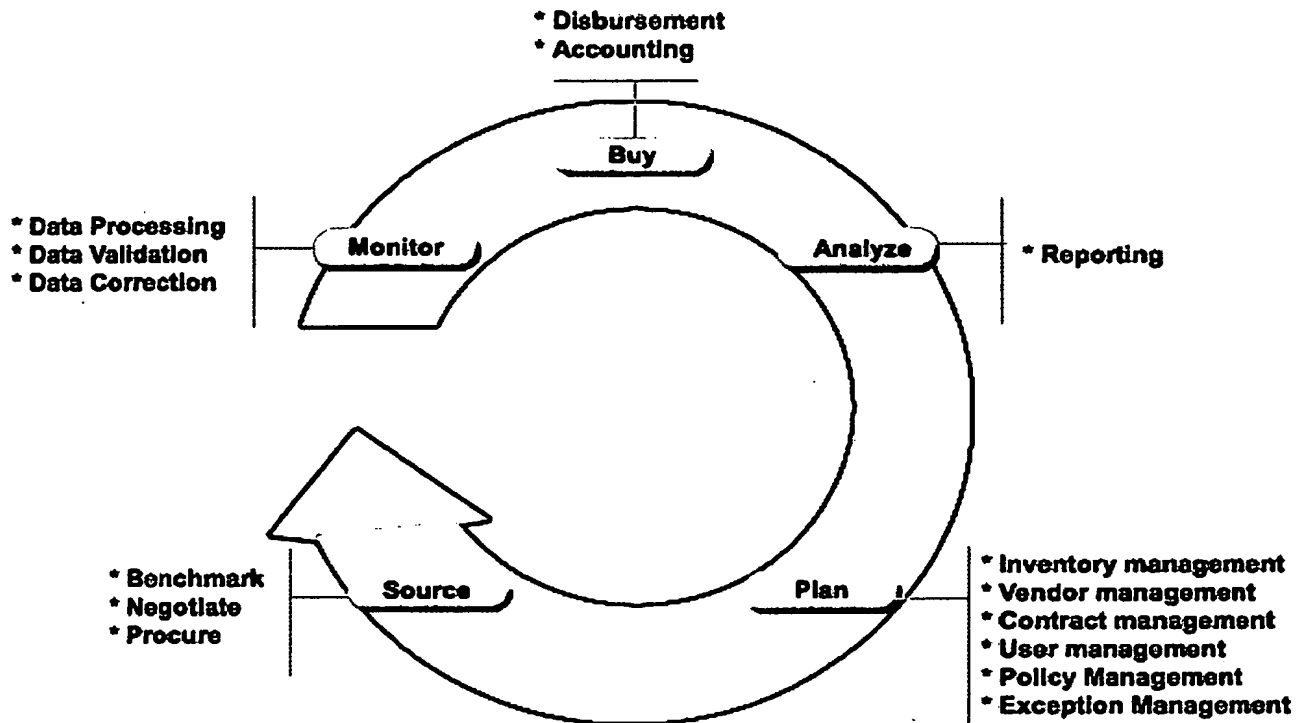




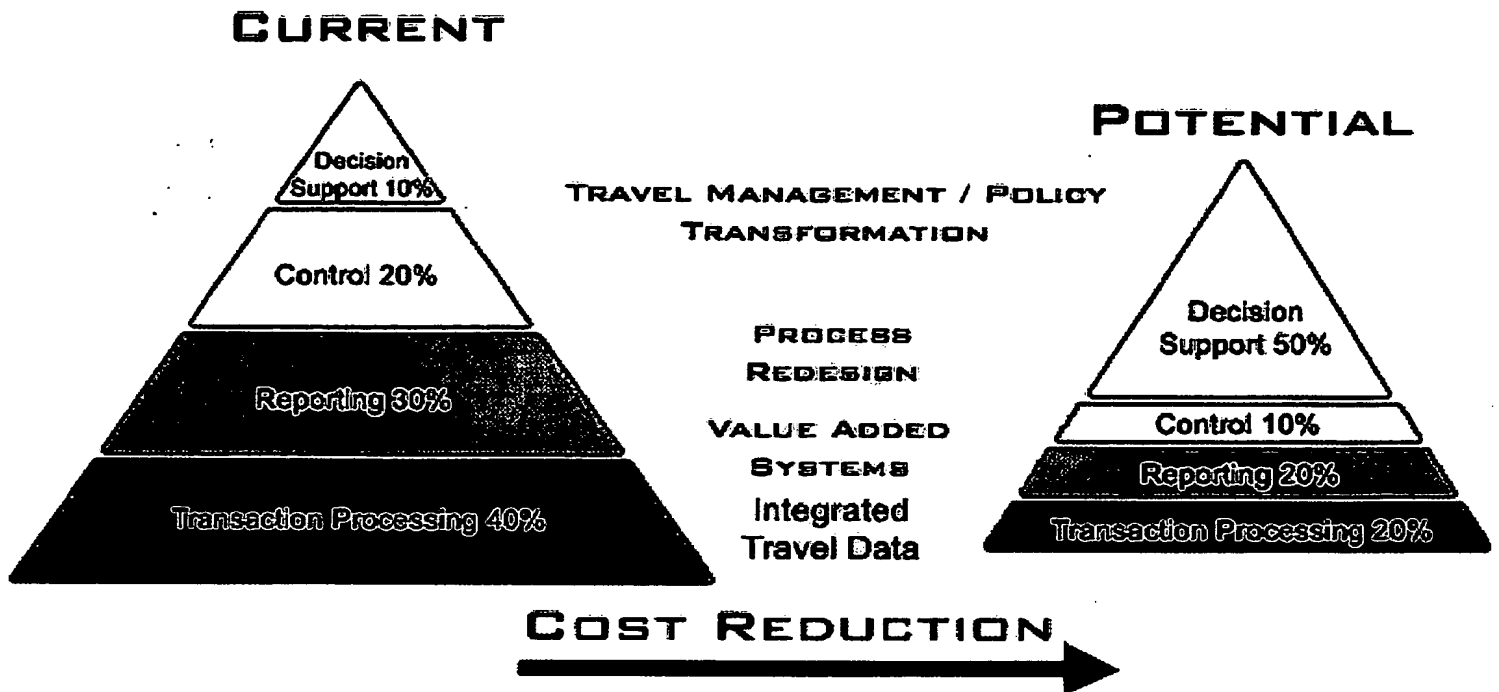
**Figure 1: How Total Travel Cost Management (TTCM) Works**



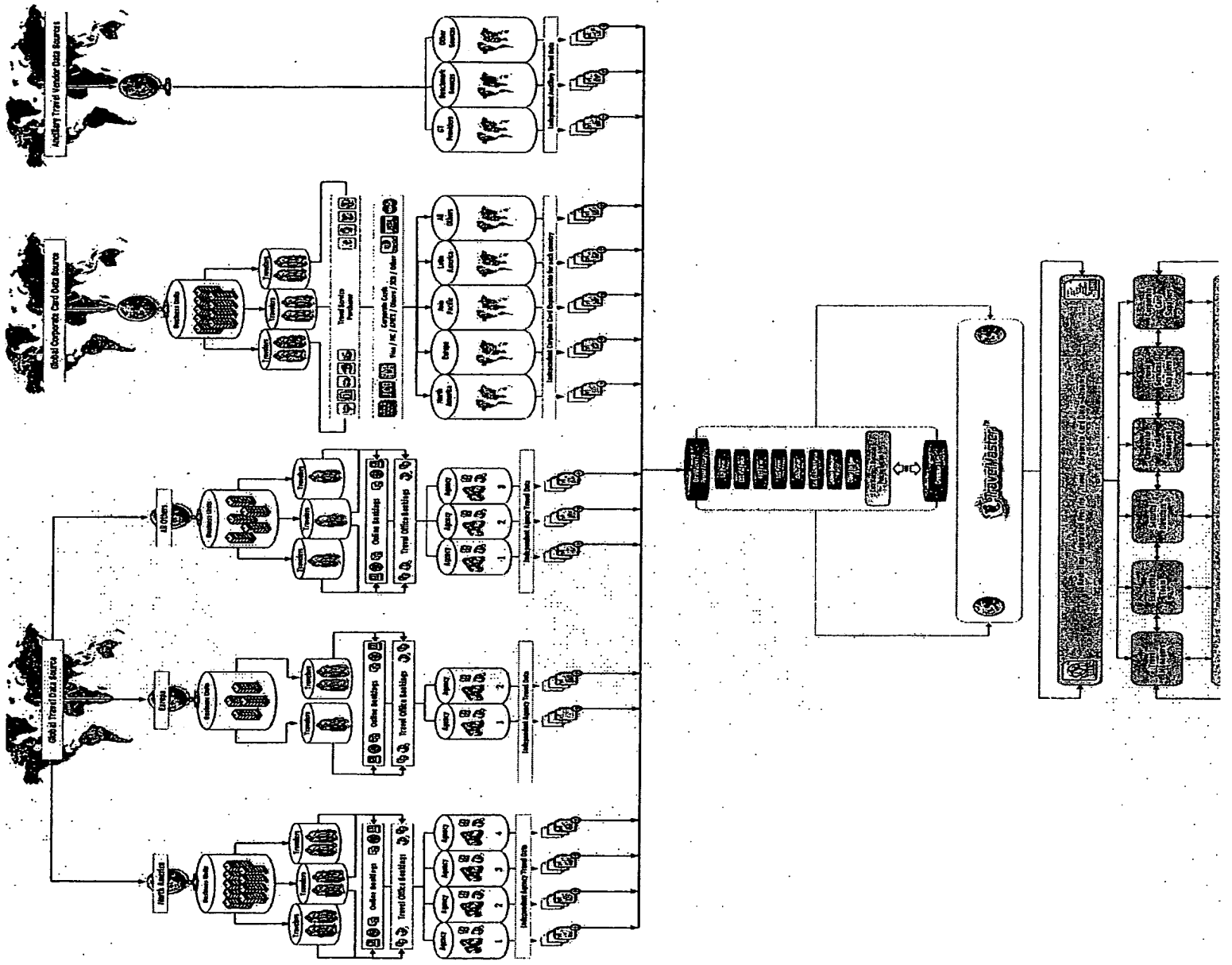
**Figure2: Total Travel Cost Management (TTCM) Service Lifecycle**



**Figure 3: Total Travel Cost Management (TTCM) Cost Reduction**





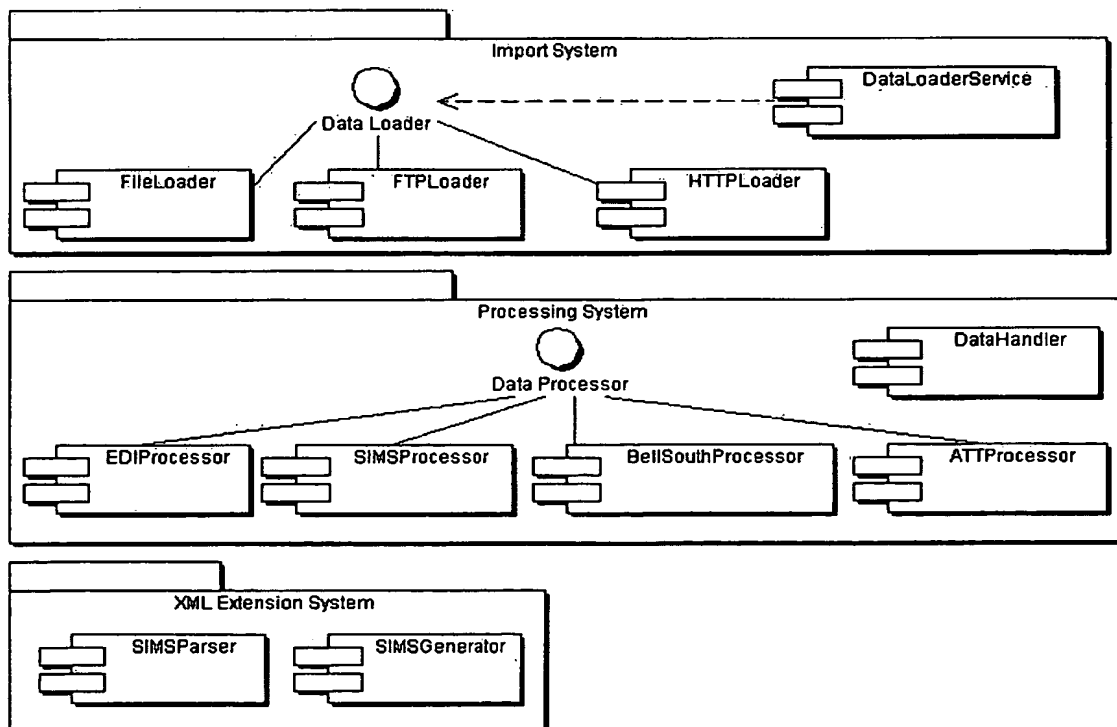


## Description of the Invention

### **Travel Data Processor**

Travel Data Processor system encapsulates all the functionality related to travel bookings data and corporate card data manipulation from all source feeds. It is capable to translate any kind of file to an internal format and it also has the ability to export files with internal data to the other system modules, especially the In-house Connector System - the only way to deal with existent legacy systems. The module has a plug-in interface for heterogeneous data formats.

The entire system has complete flexibility and scalability. The three main subcomponents (Import Mechanism, Processing Mechanism, XML Mechanism) give the architecture the desired interoperability to the other components of the system.



## **Processing System**

- Processes data for TravelMaster and the information will be refined
- EDI compliant
- XML (SIMS format) compliant
- Provides vendor-dependent implementations
- All storage operations are intermediated by the Data Handler component as the only database access point.
- The use of a single database access point makes the module easy traceable and allows the administrator to create system run reports.

## **Import System**

- Handles the input sources for invoices or other system required information
- Manages the data load process by taking advantages of processing system capabilities
- Multiple data sources (FILE , FTP, HTTP locations).
- Easy extendable for another data source such as EMAIL, depends on customer needs.

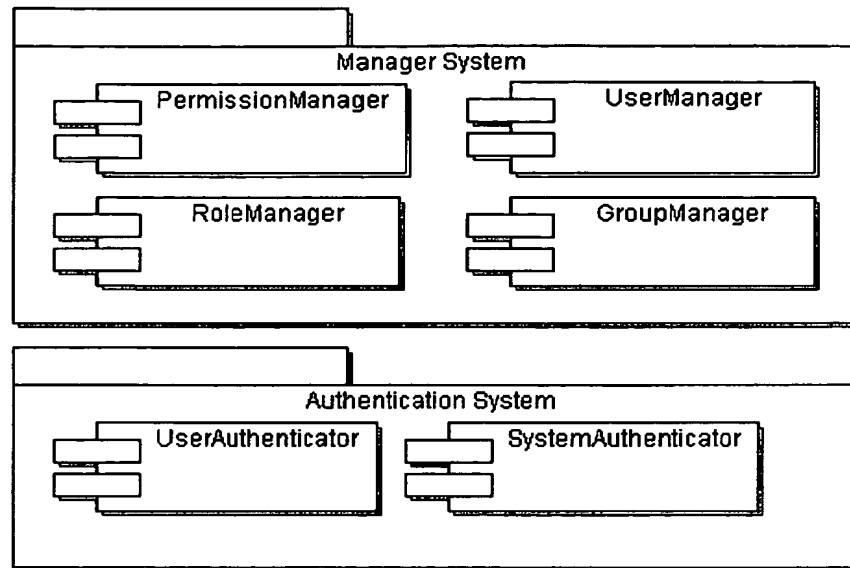
## **XML Extension System**

- The double-way access point by allowing the export of the information in XML format or the import of the information from a standard XML format.
- Provides the system with an XML interface
- Makes the system powerful by meaning of using standards
- Creates the capability of interoperability with legacy or third party systems.

## **Security Manager**

The base item is the Permission . A set of permissions will be aggregated in a well-defined Role. System users will be entities as parts of Groups and Roles. The application will filter the requests on a permission basis. Each action of the system has a code assigned and the permission will be the counterpart of a well-defined action. This structure creates a completely flexible solution for user maintenance and application access rights.

The most important part of the module is the Authentication Mechanism that provides an easy way to authenticate users or modules within the architecture.



### **Manager System**

- Provides mechanisms to manage permissions
- Aggregates permissions into roles
- Creates users
- Assign users in groups and roles

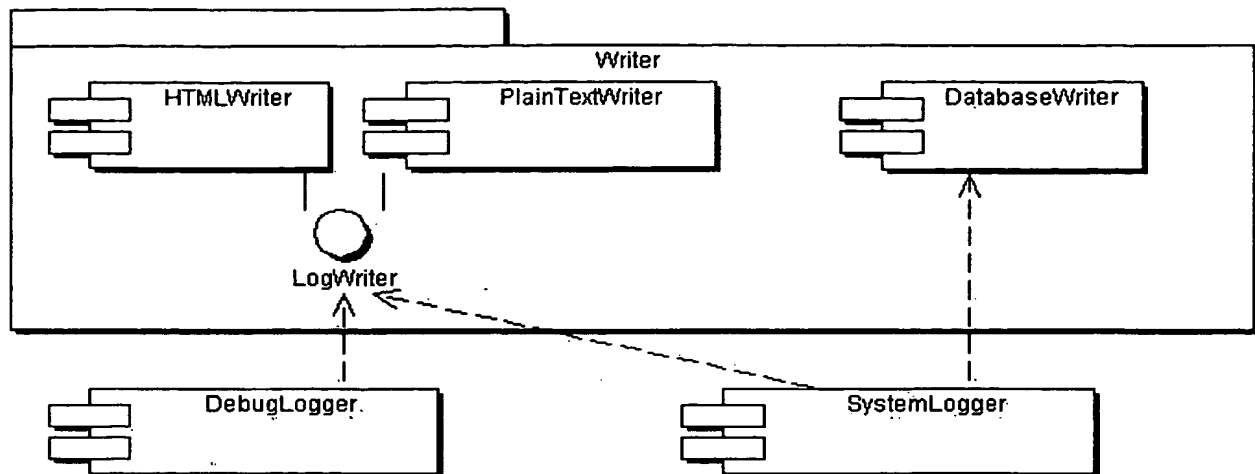
### **Authentication System**

- Provides an easier way to authenticate users into the system
- Capability to enable/disable access to a specified action

### **Log System**

There is some key information, except the application data, that have to be stored while an application is running. There are two main categories of events: debugging events and tracing events. The debugging information is used just for text display purposes and is useful for system maintenance. The tracing information is used for administration purposes, giving an administrator/supervisor the chance to inspect the steps taken by the users while using the

system. It is also useful for management purposes by providing time & action information regarding specialized staff.



## Writer

- Does the write actions
- Supplies the basic target implementations by such as Plaintext HTML and implementation
- Database Writer provides the accessibility to a relational database storage support, that way it provides the reporting system with information for dynamic reports and analysis.

## Logger

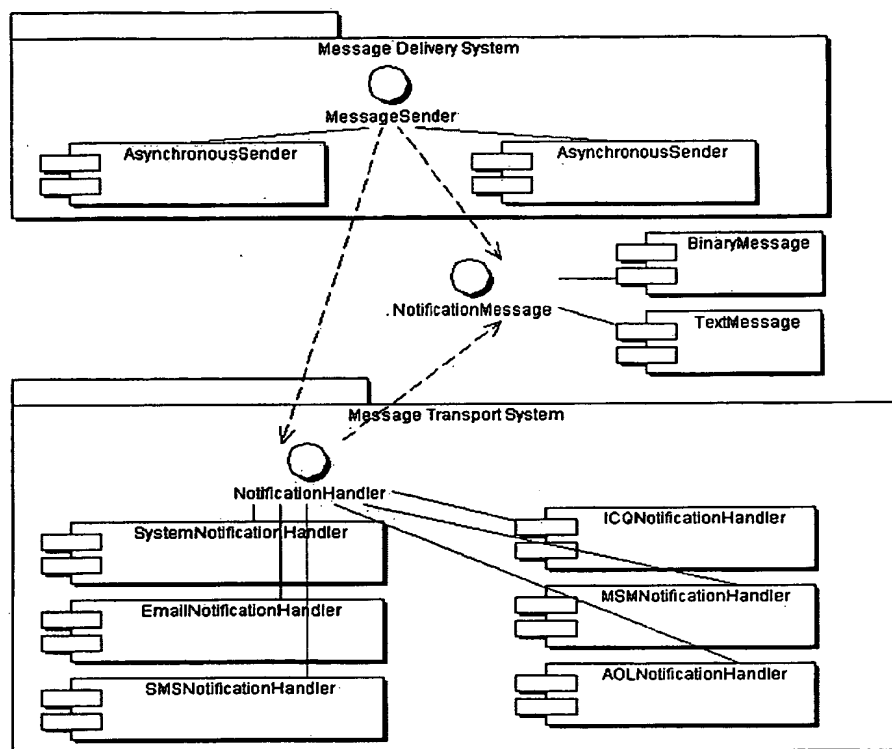
- Is made up from a debugger and a system logger.
- Debugger stores information for debugging purposes usually in plain text format or HTML. PDF or XML formats can be added easily.

-System Logger (tracer) controls the logging process and messages (multi language support) for administrative purposes rather than maintenance or debugging.

## Notification System

The Notification engine is made up by two main components, a synchronous and asynchronous component. The synchronous messenger server is used for real time communication and the asynchronous messenger is designed especially for automatic notifications or e-mail. The second mode does not involve occupied waiting while communicating and is the most suitable in a distributed environment.

It offers an interface for classic messengers and e-mail. Messages can be of two types, text and binary and the targets can be heterogeneous (different type of messengers, e-mail or directory location destinations).



## Notification Message

- Provides two types of messages, text binary and
- The other modules can take advantages of this architecture by sending plain text messages or HTML, PDF, SVG, XML messages

## Message Delivery System

-Provides the notification mechanisms in two ways, synchronous and asynchronous

## Message Transport System

-Provides the transport mechanisms for various types of destinations

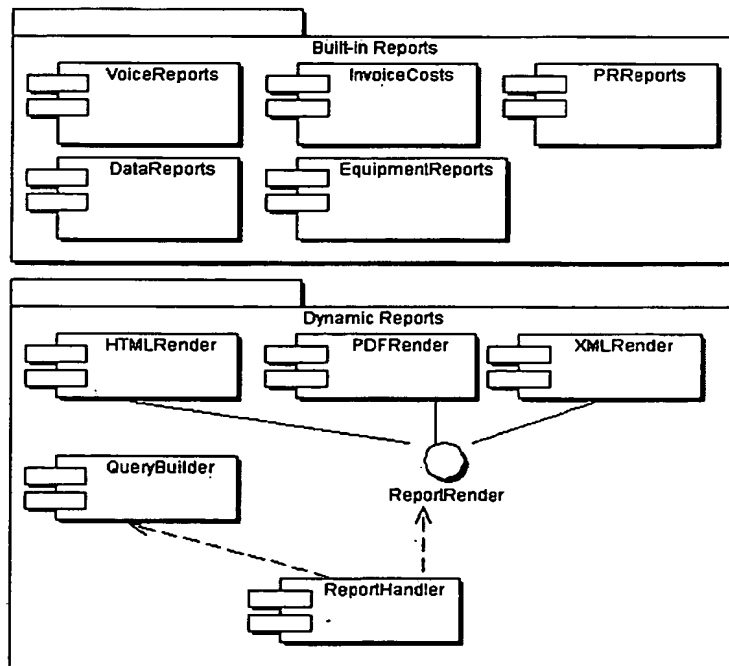
-Can notify the system with messages usually used to be displayed as banners or general interest information

-Provides implementation for email SMS, notifications or

-Integrates with most used messengers such as ICQ, AOL, MSN Messenger, Netscape, Yahoo and others.

## Reports System

The most important part of an application that manages data integration information is the reporting component. The "display data" is a sensible problem in every application. By taking advantages of Velocity, XML, XSL, XSL-FO, SVG it is a key part of the entire architecture. It is all about informing the user about what it is interested into- cost savings, cost migrations, cost estimations, travel bookings, tracking of travelers on the road, policy violations, traveler security, etc., and finally graphic reporting gives the user a more accurate picture of the process. This puts the designated people in connection with the rhythm of the business itself.



## **Built-in reports**

- The reports into the system by default

## **Dynamic Reports**

- Customizable reports based on user search criteria and different output formats.
- Pulled information changes based on user's inputs
- Different output formats (storage purposes) can be generated.

## **Workflow Manager**

The Workflow Manager module holds all the actions and aggregates them as items into a graph. The mathematical model of the module is the State Machine. The workflow controller manages the user steps while working with the application. This is the guide of a well-defined process, this role being to control the input and dispatch the action request. For example, if a user logged in from a web browser and went to some pages, it cannot get back to the previous page by pressing the "back" button into the browser, the only way to get back is to redo the process, if data was processed and closed, the user cannot get back to the original page, modify key values and do different actions to the same data. This prevents unpredictable behavior to happen into web applications.

## **Layout Manager**

The entire interface of the application is based on skins and it will take advantages of Velocity scripting language to implement that. This permits easy customization of the interface, and GUI personalization . The system is easily extensible, just by rewriting the interface generator templates as a replacement for the entire application or just for a part of it. What creates advantages for an application structured that way is the speed of the interface generation process and the availability to

generate the same content even if the application server that hosts the component is not running. That means the application can easily render the same content without using JSP's or other technologies that depend on the running status of the server.

## **Plug-in Manager**

Some components of the distributed application can work alone and others request the presence of some implemented modules. A customized module, a client new feature module represent this kind of components that have to be manipulated by a manager and all this components are



named plug-ins because they support a well defined connectivity interface and permits runtime activation and passivity or even uninstall.

### **In-house Connector**

Many organizations have already implemented some software systems like Accounting Stock or applications. Because this "Legacy Systems" are usually written in programming languages other than Java or even if they are in Java it is a 90% probability to be not conforming to Java Connector API specification, there is a necessity to have interoperability between TravelMaster and legacy systems, this is done by a special state-of-the-art system called an In-house Connector that gives organizations a chance to integrate with existing management software.

### **License Manager**

Every customer support department treats the clients on a license code basis. Treating the customers by their license number improves the business by speeding up the communication and identification process. Also the license management system encapsulates the identification functionality and open or restricts some system key features.

Previously no application has been built with integrates travel data and corporate card data on an itinerary by itinerary basis, highlighting specific data which is critical to the maintenance of a well-run, highly controlled travel program – as well as improving negotiating leverage with travel suppliers.

For instance, prior to the invention, a travel manager might have travel bookings data indicating that 100 room nights had been booked through the travel agency office at a specific hotel property. Further the corporate credit card data available to the travel manager might indicate that 105 room nights had been paid for at the same specific hotel property. However in speaking with the hotel, they might show that there had been only 38 room nights actually. Previously it would take a great deal of manual investigation to determine (if it were even possible to determine), what had occurred. (For instance one scenario in this situation might be that of the 100 room nights booked through the travel office 62 were cancelled, and those travelers never arrived at the hotel, while 67 other travelers all walked into the hotel unexpected and booked rooms without asking for the corporate rate). Other scenarios are possible as well.

Now, the travel manager will know automatically how many room nights booked through the travel office were actually utilized, how many were cancelled, how many travelers who did not book through the travel office actually stayed at the hotel and what rate they paid, and at the touch of a button will be able to provide the hotel with an automatically generated report which details the traveler's name, dates of arrival and departure at the hotel, invoice number, and total payment made to the hotel

## **Travel Data Processing and Integration**

This is the administrative mechanism that receives and maintains the data associated with the data feed from all Travel booking sources & all Corporate Card data sources, as well as all ancillary travel services providers which may be extending data feeds to the corporation and/or to TravelMaster. Processing and integration will include both recurring and non-recurring expenses.

## **Validation**

The validation function of TravelMaster involves the identification of those variables that do not comply with expected Travel terms and conditions. It is the validation function combined with the audit task that identifies and recoups funds associated with errors and exceptions. Audits also reconcile data with known vendors, users, and contracts to assure enterprises that payments made for services comply with services rendered and corporate policies.

Audit functions include billing assurance, rating and faring assurance, compliance, accuracy, validation, and reconciliation. Historically, as “audits” relate to travel spend companies have performed audits as a “clean-up” effort on an annual or semi-annual basis IF such audits have been performed at all, and in travel, recovery of funds due to prior mis-charging errors has historically been near zero. However, TravelMaster will do automatic dynamic audits on bookings on a real-time basis, and flag any errors of any kind, allowing for correction prior to commencement of travel. As these dynamic audits rely on highly integrated processing systems, they have never been possible previous to recent technical development in the EDI field, and no product has ever been produced that performed such audits on a real-time basis as travel bookings occurred. By applying the TravelMaster technology invention to the error problem, companies can process many more expenses, corporate card and travel data more quickly today than via manual labor.

## **Correction**

When faring, rating or policy issues fail to comply with contract terms, TravelMaster will flag the error and thereby alert the travel management group within the company to the situation prior to the commencement of travel thereby allowing for correction at the point of sale. Receiving Travel credits or refunds after the commencement of travel is nearly impossible.

## **Buy**

Part of the difficulty in ascertaining Travel spend and contract compliance has been because Travel services are actually contracted first and paid for over a time period – additionally rates at airlines, hotels and rental car companies change with tremendous volatility -- hourly or even by

the minute in some cases, previously making the process of determining what rates should be charged under the contract nearly impossible for an individual at the company. As such, the typical “buy” step in the total cost management framework as it relates to corporate travel has historically been virtually impossible to determine on an individual trip by trip basis.

Within companies taking advantage of the TravelMaster solution, there are generally three disbursement models in which the actual payment of travel expenses occurs.

1. The cost of the various travel components is charged on a credit card as the employee travels, and when the employee has returned to their home base, the employee prepares a travel expense report, which the company then reimburses the employee for.
2. The company and the travel services provider have shared access to a clearing account, in which the company transfers the appropriate funds for disbursement by the travel services provider on their behalf
3. The vendor sends the enterprise a single bill for its services, as well as the aggregate Travel service bills. The vendor then pays directly on behalf of the enterprise. Therefore; part of the compelling need for our TravelMaster solution is to make sure companies are only paying for what they should, before they make payment.

Accounting Part of the value-add that our TravelMaster solution provides is the integration of the invoice, corporate card and travel data they collect with A/P and the general ledger systems, so key financial data can be efficiently shared within the organization. The TravelMaster process makes appropriate accounting entries on Travel spend details; and even perform accruals and capital expense accounting.

### **Chargeback**

In this way, TravelMaster allows expenses to be associated within companies to the business unit, group, or unit that used the Travel service. The TravelMaster invention also enables Travel expenses to be charged directly to a user level through direct coding charges to cost centers, or leveraging allocation tables to distribute spend across commonly assumed or actual usage levels.

### **Analyze**

With valid charges paid, Travel managers and finance counterparts’ next want to understand the underlying trends and areas of improvement.

### **Reporting**

TravelMaster solutions can flag areas of action that will either improve service quality or lower the overall cost basis of the travel budget. The most effective reporting tools among the

TravelMaster solutions are those that present a clear analysis that enables an actionable event. Critical to that process is the prioritization of required actions. Reports that show estimated dollar impact make planning and sourcing decisions that much easier.

No other solution available to corporations today provides a reporting mechanism for enterprises to visualize and analyze the complete aggregate travel spend and integrated corporate card data — across all services, vendors, and business units — to allow simplified decision-making processes. Whether the enterprise or the vendor hosts the TravelMaster solution, a Web-based portal is utilized to access this data, making this invention highly flexible and presents the data in ways never before possible.

TravelMaster offers:

- “Dashboard” views of key tables or charts on spend and usage or exceptions
- Standard reports on typical spend and usage patterns Customized reports for cross-tabulating particular spend areas or use
- Complete flexible Ad hoc query capabilities

## **Plan**

Armed with this information, enterprises can determine how best to influence necessary changes. The TravelMaster invention also automates parts of the optimization process. Optimization planning can impact several points in the Travel service ecosystem:

### **Travel Services Management**

Is there an opportunity to consolidate underutilized services?

### **Vendor Management**

Is there an opportunity to eliminate risk; i.e., via redundant carriers?

### **Contract Management**

Based on usage patterns, do contract terms need to be renegotiated?

### **User Management**

Can costs be driven down through proper user training; i.e., Proper understanding of travel services, policies and options?

## **Sourcing**

As most travel services are billed on a recurring basis, original contract and supplier decisions hold true over time, but new services and travel requests continually cycle through a dynamic demand process.

## **Negotiations**

With the built in data and information of common travel contract structures, pricing models, vendor pain points, and SLAs requirements, enterprises can utilize TravelMaster data to negotiate new travel vendor relationships.

## **Benchmarking**

The TravelMaster invention maintains databases of key data sets — typical spending, usage, pricing, etc. — that establish a norm among relevant peer groups. Enterprises can consult such benchmarking data to gain an understanding of how they compare to like-sized companies or similar vertical industries.

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